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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,795	10/28/2003	Neil Colin Widmer	839-1353	2794
30024	7590	04/22/2005	EXAMINER	
NIXON & VANDERHYE P.C./G.E. 1100 N. GLEBE RD. SUITE 800 ARLINGTON, VA 22201			GARBER, CHARLES D	
			ART UNIT	PAPER NUMBER
			2856	

DATE MAILED: 04/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/605,795	Applicant(s) WIDMER, NEIL COLIN	
	Examiner Charles D. Garber	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,7-11,13,17-19,21,25-29,31,35-37,39,43-47,49,53 and 54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03/04/2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03/04/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Election/Restrictions

Applicant's election of claims 4-6, 14-16, 22-24, 32-34, 40-42, 50-52 in the reply filed on 03/04/2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Furthermore, Examiner considers claims 2, 12, 20, 30, 38, 48 are also drawn to species depicted in figure 3 which was not elected. Simply venting two different streams to atmosphere at two different locations is not considered to be equivalent to controlling the outlet pressures to be the same as in these claims. Local variations in atmospheric pressure would prevent this.

Accordingly, claims 2, 4-6, 12, 14-16, 20, 22-24, 30, 32-34, 38, 40-42, 48, 50-52 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species. Applicant is invited to distinctly traverse the requirement in response to this Office Action.

Specification

The amendment filed 03/04/2005 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: Drawing figures 1 and 2 showing multiple ducts.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 7, 10, 11, 17, 19, 25, 28, 29, 37, 43, 46 are rejected under 35 U.S.C. 102(b) as being anticipated by Apley et al. (US Patent 4,442,720).

Regarding claims 1, 19, 37, Apley discloses an apparatus and method of operation for obtaining a representative sample from flows using particular spacing (abstract) including probe 10 with plural inlet ports 24 in pipe 16 (duct) as shown in figure 1. Throttle control valves 32 “are throttled until the isokinetic static pressure in tap lines 28, as measured by differential pressure transducers 30, becomes a null value or some other predetermined value.” (columns 5 and 6 and figure 7) Because all the tap lines are interconnected in series with the differential pressure transducers 30 this will be equivalent to controlling a back pressure within the sample probe so that the back pressure within the sample probe at each inlet port is the same. Analysis system 36 and calorimeter analysis system 46 receive sample portions of the fluid from the plurality of inlet ports as shown in figures 1 and 7.

As for claims 11, 29, because the sampling is isokinetic Examiner considers that mass flow of the fluid received into each of the inlet ports is respectively equal to local mass flow of the fluid in the duct at each of the inlet ports as in the instant invention.

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As for claims 7, 17, 25, 43, by inspection of figures 2-4, a cross sectional area of the sample probe appears to be at least ten times larger than a sum of respective cross sectional areas of the inlet ports.

As for claims 10, 28, 46, because the sampling is isokinetic Examiner considers fluid received into each of the inlet ports is respectively representative of local mass flow of the fluid at each of the inlet ports. This is ensured by controlling the back pressure within the sample probe so that the differential pressure between each adjacent port becomes null - "just as if ports 24 were not present, i.e., the natural flow of fluid stream 22 is measured."

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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Claims 1, 3, 8, 9, 11, 13, 18, 19, 21, 26, 27, 29, 31, 36, 37, 39, 44, 45, 47, 49, 54, are rejected under 35 U.S.C. 103(a) as being unpatentable over Monticelli, Jr. (US Patent 4,739,647) in view of Apley et al. (US Patent 4,442,720).

Regarding claims 1, 3, 11, 13, 19, 21, 29, 31, 37, 39, 47, 49, Monticelli, Jr. discloses an apparatus and method for continuously monitoring flow (title) isokinetically (column 3 line 65 to column 4 line 2) by sampling (item 9) fluid flowing through a trunk 7 (duct). Tube 18 is a sample probe having an inlet port in the duct as shown in figure 1. Back pressure within the sample probe is controlled by venting the sample probe to atmosphere at tube 20. Branch tube 21 receives a sample portion of the fluid into from the inlet port.

However, Monticelli, Jr. does not teach the sampling is spatially representative using a plurality of inlet ports.

Apley discloses a similar device teaching plural ports 24 as shown in figures 2-4. Apley explains a single port probe can "not examine the radial gradient of fluid flow in the pipe" (column 1 lines 58-61) which is critical to accurately evaluating the flow (column 1 lines 26-29). Apley's arrangement can "withdraw a fluid specimen from the... stream such that the sample is representative of the entire fluid flow volume."

It would have been obvious to one having ordinary skill in the art at the time the invention was made to take a spatially representative sample using a plurality of inlet ports in order to accurately evaluate the entire fluid flow volume.

Examiner considers that by venting the sample as in Monticelli, Jr. the back pressure within the sample probe will inherently be controlled so that the back pressure

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within the sample probe at each inlet port of Apley will be the same as in the instant invention.

As for claims 8, 9, 18, 26, 27, 36, 44, 45, 54, Examiner considers that by venting the sample flow through tube 20 the back pressure in the sample probe will not be substantially changed as in the instant invention. Likewise, the local duct pressure at each inlet port will be minimized and the sample portion of the fluid will be driven into the inlet ports.

Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Monticelli, Jr. (US Patent 4,739,647) as modified by Apley et al. (US Patent 4,442,720) and applied to claim 47 above and further in view of Carleton et al. (US Patent 5,703,299)

The references do not teach the duct area at least ten times the sum of the plural port areas.

Carleton teaches probe pipe 12 area approximately 24 times the sum of the port 14 areas to "insure that sampling is balanced over all the port holes...to give a pressure drop across each hole which is preferably significantly greater than, in this case about 100 times greater than, that of the total extracted fluid flowing through the probe itself". (column 5 lines 13-42)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to duct area at least ten times the sum of the plural port areas and preferably 24 times insure that sampling is balanced over all the port holes.

Conclusion

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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The additional references cited on the accompanying form PTO-892 though not cited above are provided to indicate other prior art samplers which include one or more features or limitations in common with the instant invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles D. Garber whose telephone number is (571) 272-2194. The examiner can normally be reached on 6:30 a.m. to 3:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Cdg



**CHARLES GARBER
PRIMARY EXAMINER**

Continuation of Disposition of Claims: Claims withdrawn from consideration are 2,4-6,12,14-16,20,22-24,30,32-34,38,40-42,48 and 50-52.